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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,589	09/05/2006	Masahiro Fukuda	Q96325	3348
23373	7590	09/22/2009	EXAMINER	
SUGHRUE MION, PLLC			BROADHEAD, BRIAN J	
2100 PENNSYLVANIA AVENUE, N.W.				
SUITE 800			ART UNIT	PAPER NUMBER
WASHINGTON, DC 20037			3664	
			MAIL DATE	DELIVERY MODE
			09/22/2009	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/591,589	FUKUDA, MASAHIRO	
	<b>Examiner</b>	<b>Art Unit</b>	
	BRIAN J. BROADHEAD	3664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on \_\_\_\_\_.  
 2a) This action is **FINAL**.                  2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) \_\_\_\_ is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) 1-8 is/are allowed.  
 6) Claim(s) \_\_\_\_ is/are rejected.  
 7) Claim(s) 1-8 is/are objected to.  
 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 05 September 2006 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date <u>9-5-06</u> .	6) <input type="checkbox"/> Other: _____ .

### **DETAILED ACTION**

1. This application is in condition for allowance except for the following formal matters:
2. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
3. Claims 1 through 8 are objected to because of the following informalities: The claims recite multiple instances of the same type of element. These elements should be labeled first, second, etc. throughout the claims to avoid confusion. For instance, in claim 1 there is and A/D converter associated with the main MCU and an A/D converter associated with the sub MCU. It would be helpful to call one a "first A/D converter" and the other a "second A/D converter" and use these term throughout the claims. This also applies the different return values.
4. In claim 5, the limitation "a D/A converter" is recited. It is assumed that this is referring back to the already disclosed "D/A converter" of claim 1 so it is suggested that the limitation be changed to "the D/A converter" or "said D/A converter."
5. Appropriate correction is required.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 25 USPQ 74, 453 O.G. 213, (Comm'r Pat. 1935).

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

***Allowable Subject Matter***

6. The following is an examiner's statement of reasons for allowance: The prior art of record fails to disclose a fault diagnosis by outputting a test signal from a first CPU through a D/A converter which is connected to both a first A/D converter on the first CPU and also connected to a second A/D converter on a second CPU, the second CPU supplying the signal received from the second A/D converter to the first CPU. The first CPU comparing the signal supplied by the second CPU and a signal received from the first A/D converter to the original test signal to determine faults. The prior art of record describe many fault detection configurations but none read on the invention as claimed. Loise, 5630046, discloses one type of fault detection configuration. The invention includes three CPU for carrying out the same calculations and then votes based on each CPU's result. The invention does disclose providing a value to the A/D converters associated with two of the processors as an error checking mechanism, but the value provided is just a feedback value of a commanded value. The same value is not supplied to the CPUs via the A/D converters so that a comparison can be made between the two values received in the CPUs from the associated A/D converter, instead the feedback is used so that each CPU can check its actual output versus what was commanded. Greure et al., 5794167, is another example of an error checking

mechanism with a value from the processors fed back into the input of the A/D converter. However, this value is only fed to a single A/D converter (A/N2) and is used to verify the output of the processors. In this case, the two processor carry out the same functions and a third voter processor compares the results to see if there is an error in either control channel.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN J. BROADHEAD whose telephone number is (571)272-6957. The examiner can normally be reached on Monday through Thursday or Tuesday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Khoi Tran can be reached on 571-272-6919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/B. J. B./  
Examiner, Art Unit 3664  
/KHOI TRAN/  
Supervisory Patent Examiner, Art Unit 3664